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September 5, 2003

Mr. Thomas M. Dorman
Executive Director
Public Service Commission
211 Sower Blvd.
Frankfort, KY 40601

Re: Case No. 2003-00224

Dear Mr. Dorman:

Pursuant to the Commission's Order of August 11, Northern Kentucky Water District submits its Asset Management Program description. A copy has been mailed to the Attorney General.

If there are any questions about this, please contact me.

Very truly yours,

John N. Hughes

Attorney for Northern
Kentucky Water District

NORTHERN KENTUCKY WATER DISTRICT
ASSET MANAGEMENT PROGRAM

During the Northern Kentucky Water District's (NKWD or District) 2002 rate case, a question arose as to the adequacy of the District's calculation of annual depreciation. Given the anticipated demands associated with repair and replacement of the District's infrastructure, it appeared that the current depreciation calculation would not be adequate to cover such demands. In response to this concern, the Kentucky Public Service Commission (PSC) noted that a depreciation study had not been performed since the District's formation in 1996 and that there was some uncertainty of how the current depreciation lives were developed.

In the decision concerning Case No. 2002-00105, the PSC ordered the District to complete and file a depreciation study on or before its next rate case, scheduled to be filed prior to September 1, 2003. Given the time and resource constraints associated with the filing of the 2003 rate case, the District subsequently filed a motion requesting an extension of time to file the depreciation study. In that same motion it was noted that the District has initiated a comprehensive Asset Management Program which would provide a detailed analysis of the types of the facilities, their age, condition and expected useful life.

In order to illustrate how the proposed Asset Management Program will meet the needs of the depreciation study, a description of the elements of both approaches is presented below.

Elements of a Depreciation Study

A depreciation study analyzes the service life characteristics of plant in service to establish an estimate of depreciation accrual rates. Typically a study consists of four stages;

1. Planning
2. Data collection
3. Analysis and synthesis and
4. Management evaluation and action

The first stage focuses on optimizing the overall use of resources. A review and inspection of accounting and engineering records provides the understanding of capital investment administration and its correlation with physical property characteristics.

The second and third stages consist of collecting and analyzing facts in such a manner that judgments concerning condition assessment and corresponding depreciation rates can be reasonably drawn.

The final stage involves a through review by management in order to incorporate their insight on risk management. Some factors which may impact the outcome include advancements in technology, available resources, and financial constraints.

Elements of the District's Asset Management Study

In April 2003 NKWD retained Black & Veatch Corporation to prepare a comprehensive Asset Management Program (AMP). The goals of the AMP, as originally defined, were as follows:

- Assess the condition of existing facilities;
- Develop a prioritized list of improvements for water supply, treatment and distribution facilities in the form of Capital Improvement Plans; and
- Create a computerized inventory of facilities and equipment, including the current condition and relative importance in NKWD's function.

The result of the AMP will be a guidance document for NKWD to plan capital improvement projects into the foreseeable future. This will take the form of a summary report, including 5-year (2004 – 2008) and 20-year (2004 – 2020) Capital Improvement Plans. NKWD will also receive the computerized inventory and facility database for future use in tracking equipment condition and scheduling related repair and/or replacement projects.

NKWD prepared a Scope of Services for the development of the AMP, which was organized into specific phases and task items. The work effort included for each of these phases is described below.

PHASE 100 – INFORMATION COLLECTION AND REVIEW

- Review existing reports, documents, and drawings supplied by NKWD.
- Collect, compile, and review the three most recent years of treatment plant and distribution system operating and water quality data.
- Conduct interviews with NKWD management to document goals and with staff to determine operational concerns.

PHASE 200 – DEVELOP WATER TREATMENT PLANT INFRASTRUCTURE ASSESSMENT MANAGER PROGRAM

- Using the American Water Works Association Research Foundation (AWWARF) "Water Treatment Plant Infrastructure Assessment Manager" software, develop a computerized asset management program.
- Create a tree of the water supply facilities, treatment plants, pumping facilities, and storage tanks for the entire water system in the AWWARF program. The final tree will be determined through discussion and review with NKWD. Provide the finished AWWARF software and tree to NKWD.

PHASE 300 – EVALUATE EXISTING FACILITIES AND OPERATIONS

- Review and evaluate relevant federal and state water quality statutes and regulations. Determine NKWD's ability to comply with current and pending regulations using existing treatment processes and practices, as well as any future regulations that may be anticipated.
- Visit and assess the viability of the NKWD facilities, including: intakes, water treatment plants, pumping stations, and storage facilities. Develop recommendations for upgrades to major process equipment and structures.
- Review the NKWD Water Quality Laboratory for space and equipment needs for current and future testing requirements.
- Review the current pump inspection program and develop any recommendations for the inspection program for equipment and structures.
- Review the current storage tank inspection program and develop a schedule and recommendations for tank maintenance (inspections, cleaning bowl, etc.), painting, valving arrangements, and replacement of equipment and structures.
- Evaluate the NKWD water main rehabilitation and replacement program and recommend strategies for gathering information that will facilitate evaluating the condition and life expectancy of the water mains.
- Review existing information being entered by NKWD in the current software programs used to track and schedule maintenance and recommend any changes to data entry.

PHASE 400 – DEVELOP WATER SUPPLY AND TREATMENT ALTERNATIVES

- Develop conceptual strategies for NKWD to meet water supply, treatment, and distribution requirements. Prepare a summary description of the approach, advantages and disadvantages, implementation plan and anticipated method of incorporating the facilities into the system, opinion of probable construction cost, and estimated annual operating cost. Conduct a workshop with NKWD to determine which strategy appears favorable for more extensive evaluation.
- Perform a comprehensive evaluation of the recommended strategy. Prepare a preliminary design including a plant hydraulic profile, equipment design characteristics, preliminary site and plan drawings, and detailed cost estimate.
- Establish a staged improvement program by priority, based on design years 2005, 2010, and 2020. Prepare 5-year (2004 – 2008) and 20-year capital improvement plans (through 2020). Prepare three rate scenarios for input into NKWD's rate model. Rate scenarios will reflect alternative funding sources, timing of capital expenditures, new revenue sources, and other financial elements. Recommend one of the scenarios based on the model results and discussion with NKWD.

PHASE 500 – PREPARE REPORT

- Prepare a report discussing the results of the evaluation and the recommended improvements.

PHASE 600 – PROVIDE RECOMMENDATIONS FOR ADDITIONAL STUDIES

- Prepare recommendations of studies for additional investigations.
- Through mid-August 2003, Phases 100 and 200 have largely been completed. Phases 300, 400, and 600 are currently underway. Phase 500, preparation of the report, is anticipated to be completed in December, 2003.

Comparison of Programs

As indicated by the detailed description of comprehensive Asset Management Program the District is currently undertaking, the four elements of a depreciation study are being addressed. The first element, planning, is addressed with the interviews and review of operating documents in Phase 100 of the Program. The second and third elements, data collection and analysis are addressed in Phases 200 and 300 of the study. The detailed analysis of the individual elements of the treatment system, as documented in the asset management software, provides a condition assessment and priority rating for critical

aspects of the system. The final element, management evaluation, is addressed in the workshops identified in Phase 400.

The purpose of depreciation is to adequately recognize the annual physical value lost in the day-to-day use of a system. This annual value provides a guideline for reinvestment in the system. A depreciation study analyzes the service life characteristics of plant-in-service to establish an estimate of depreciation accrual rates which provide an estimate for that same value.

A comprehensive asset management program goes beyond a depreciation study. Not only does it help identify annual reinvestment needed to keep a system whole (thus meeting the needs of a depreciation study), it also helps identify and prioritize specific assets for reinvestment. The identification of the assets supports the risk management activities of the utility.